



S J P N Trust's

Hirasugar Institute of Technology, Nidasoshi

Approved by AICTE, New Delhi, Permanently Affiliated to VTU, Belagavi

Recognized under 2(f) & 12B of UGC Act, 1956

Accredited at 'A' Grade by NAAC & Programmes Accredited by NBA: CSE &

First Year

NAAC

Course Outcome

2022-23

List of Course Outcomes for All Courses

Course Outcomes for 1st Semester

Subject: Mathematics- I for CSE Stream

Sub Code: BMATS101

After successful completion of this course, the students will be able to;

CO	Description
C101.1	Apply the knowledge of calculus to solve problems related to polar curves and learn the notion of partial differentiation to compute rate of change of multivariate functions.
C101.2	Analyze the solution of linear and nonlinear ordinary differential equations.
C101.3	Apply to get acquainted and to apply modular arithmetic to computer algorithms.
C101.4	Make use of matrix theory for solving for system of linear equations and compute eigenvalues and eigenvectors
C101.5	Familiarize with modern mathematical tools namely MATHEMATICA/MATLAB/PYTHON/ SCILAB

Subject: Mathematics-I for EEE Stream

Sub Code: BMATE101

After successful completion of this course, the students will be able to;

CO	Description
C102.1	Apply the knowledge of calculus to solve problems related to polar curves and learn the notion of partial differentiation to compute rate of change of multivariate functions.
C102.2	Learn the notion of partial differentiation to calculate rate of change of multivariate functions and solve problems related to composite functions and Jacobian.
C102.3	Solve first-order linear/nonlinear ordinary differential equations analytically through standard methods.
C102.4	Apply the concept of change of order of integration and variables to evaluate multiple integrals and their usage in computing area and volume
C102.5	Make use of matrix theory for solving for system of linear equations and compute eigenvalues and eigenvectors

Subject: Mathematics-I for ME Stream

Sub Code: BMATM101

After successful completion of this course, the students will be able to;

CO	Description
C103.1	Apply the knowledge of calculus to solve problems related to polar curves and learn the notion of partial differentiation to compute rate of change of multivariate functions
C103.2	Learn the notion of partial differentiation to calculate rate of change of multivariate functions and solve problems related to composite functions and Jacobian.
C103.3	Solve first-order linear/nonlinear ordinary differential equations analytically through standard methods.
C103.4	Demonstrate various models through higher order differential equations and solve such linear ordinary differential equations.
C103.5	Make use of matrix theory for solving for system of linear equations and compute Eigen values and eigenvectors



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Course Outcome

2022-23

Subject: Mathematics-I for Civil Stream

Sub Code: BMATC101

After successful completion of this course, the students will be able to;

CO	Description
C104.1	Apply the knowledge of calculus to solve problems related to polar curves and learn the notion of partial differentiation to compute rate of change of multivariate functions
C104.2	Learn the notion of partial differentiation to calculate rate of change of multivariate functions and solve problems related to composite functions and Jacobian.
C104.3	Solve first-order linear/nonlinear ordinary differential equations analytically through standard methods.
C104.4	Demonstrate various models through higher order differential equations and solve such linear ordinary differential equations.
C104.5	Make use of matrix theory for solving for system of linear equations and compute Eigen values and eigenvectors

Subject: Applied Physics for CSE Stream

Sub Code: BPHYS102

After successful completion of this course, the students will be able to;

CO	Description
C105.1	Describe the principles of LASERS and Optical fibers and their relevant applications.
C105.2	Discuss the basic principles of the Quantum Mechanics and its application in Quantum Computing.
C105.3	Summarize the essential properties of superconductors and its applications in qubits.
C105.4	Illustrate the application of physics in design and data analysis.
C105.5	Practice working in groups to conduct experiments in physics and perform precise and honest measurements.

Subject: Applied Physics for EEE Stream

Sub Code: BPHYE102

After successful completion of this course, the students will be able to;

CO	Description
C106.1	Describe the principles of LASERS and Optical fibers and their relevant applications.
C106.2	Discuss the basic principles of the Quantum Mechanics and its application in Quantum Computing.
C106.3	Summarize the essential properties of superconductors and its applications in qubits.
C106.4	Illustrate the application of physics in design and data analysis.
C106.5	Practice working in groups to conduct experiments in physics and perform precise and honest measurements.

Subject: Applied Physics for ME Stream

Sub Code: BPHYM102

After successful completion of this course, the students will be able to;

CO	Description
C107.1	Describe the types of oscillations and applications of shock waves.
C107.2	Discuss the advanced elastic materials, beams with number of advantages.
C107.3	Illustrate the application of thermoelectric materials.
C107.4	Illustrate the application Cryogenics, in Aerospace and Food process
C107.5	Practice working in groups to conduct experiments in physics and perform precise and honest measurements.



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Course Outcome

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Subject: Applied Physics for CV Stream

Sub Code: BPHYC102

After successful completion of this course, the students will be able to;

CO	Description
C108.1	Describe the types of oscillations and applications of shock waves.
C108.2	Discuss the advanced elastic materials, beams with number of advantages.
C108.3	Impact of Noise in Multi-storied buildings.
C108.4	Describe the principle of laser and optical fibers and their relevant applications
C108.5	Practice working in groups to conduct experiments in physics and perform precise and honest measurements.

Subject: Applied Chemistry for Civil Stream

Sub Code: BCHEC102

After successful completion of this course, the students will be able to;

CO	Description
C109.1	Describe the types of oscillations and applications of shock waves.
C109.2	Discuss the advanced elastic materials, beams with number of advantages.
C109.3	Impact of Noise in Multi-storied buildings.
C109.4	Describe the principle of laser and optical fibers and their relevant applications
C109.5	Practice working in groups to conduct experiments in physics and perform precise and honest measurements.

Subject: Applied Chemistry for CSE Stream

Sub Code: BCHES102

After successful completion of this course, the students will be able to;

CO	Description
C110.1	Identify the terms and processes involved in scientific and engineering applications
C110.2	Explain the phenomena of chemistry to describe the methods of engineering processes
C110.3	Solve for the problems in chemistry that are pertinent in engineering applications
C110.4	Apply the basic concepts of chemistry to explain the chemical properties and processes
C110.5	Analyze properties and processes associated with chemical substances in multidisciplinary situations

Subject: Applied Chemistry for EEE Stream

Sub Code: BCHEE102

After successful completion of this course, the students will be able to;

CO	Description
C111.1	Identify the terms and processes involved in scientific and engineering applications
C111.2	Explain the phenomena of chemistry to describe the methods of engineering processes
C111.3	Solve for the problems in chemistry that are pertinent in engineering applications
C111.4	Apply the basic concepts of chemistry to explain the chemical properties and processes
C111.5	Analyze properties and processes associated with chemical substances in multidisciplinary situations



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Subject: Applied Chemistry for ME Stream

Sub Code: BCHEM102

After successful completion of this course, the students will be able to;

CO	Description
C112.1	Identify the terms and processes involved in scientific and engineering applications
C112.2	Explain the phenomena of chemistry to describe the methods of engineering processes
C112.3	Solve for the problems in chemistry that are pertinent in engineering applications
C112.4	Apply the basic concepts of chemistry to explain the chemical properties and processes
C112.5	Analyze properties and processes associated with chemical substances in multidisciplinary situations

Subject: Principle of Programming using C

Sub Code: BPOPS103

After successful completion of this course, the students will be able to;

CO	Description
C117.1	Elucidate the basic architecture and functionalities of a computer and also recognize
C117.2	Apply programming constructs of C language to solve the real world problem
C117.3	Explore user-defined data structures like arrays in implementing solutions to problems like searching and sorting
C117.4	Explore user-defined data structures like structures, unions and pointers in implementing solutions
C117.5	Design and Develop Solutions to problems using modular programming constructs using functions

Subject: Elements of Electrical Engineering

Sub Code: BEEE103

After successful completion of this course, the students will be able to;

CO	Description
C118.1	Understand the concepts of DC circuits and Electromagnetism.
C118.2	Understand the concepts of single phase AC circuits.
C118.3	Analyze the concepts of Three phase AC circuits.
C118.4	Understand the concepts of measurements and measuring Instruments
C118.5	Explain the concepts of domestic wiring, electricity billing, circuit protective devices and personal safety measures.



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Course Outcome

2022-23

Subject: Elements Of Civil Engineering & Mechanics

Sub Code: BEMEM103

After successful completion of this course, the students will be able to;

CO	Description
C121.1	Describing the basics of civil engineering, its scope of study, knowledge about roads, bridges and dams. Understanding the action of forces, moments and other loads on systems of rigid bodies.
C121.2	Understanding the concept of equilibrium and friction- Static and Dynamic.
C121.3	Analyzing and Interpreting the reactive forces and the effects those develop as a result of external loads on beams and trusses.
C121.4	Finding the centroid and moment of inertia of composite, plane and curved figures.
C121.5	Describing the basics of kinematics and kinetics, different types of motions. Analyzing the motion of the body

Subject: Elements of Mechanical Engineering

Sub Code: BEMEM103

After successful completion of this course, the students will be able to;

CO	Description
C120.1	Explain the role of mechanical engineering in industry and society, fundamentals of steam and non-conventional energy sources
C120.2	Describe different conventional and advanced machining processes, IC engines, propulsive devices, air-conditioning, and refrigeration.
C120.3	Explain different gear drives, gear trains, aspects of future mobility and fundamentals of robotics
C120.4	Determine the condition of steam and its energy, performance parameters of IC engines, velocity ratio and power transmitted through power transmission systems.
C120.5	Apply the skills in developing simple mechanical elements and processes

Subject: Computer-Aided Engineering Drawing

Sub Code: BCEDK103

After successful completion of this course, the students will be able to;

CO	Description
C122.1	Draw and communicate the objects with definite shape and dimensions
C122.2	Recognize and Draw the shape and size of objects through different views
C122.3	Develop the lateral surfaces of the object
C122.4	Create a 3D views using CAD software
C122.5	Identify the interdisciplinary engineering components or systems through its graphical representation



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Course Outcome

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Subject: Communicative English

Sub Code: BENGK106

After successful completion of this course, the students will be able to;

CO	Description
C123.1	Understand and apply the Fundamentals of Communication Skills in their communication skills.
C123.2	Identify the nuances of phonetics, intonation and enhance pronunciation skills.
C123.3	To impart basic English grammar and essentials of language skills as per present requirement.
C123.4	Understand and use all types of English vocabulary and language proficiency.
C123.5	Adopt the Techniques of Information Transfer through presentation.

Subject: Professional Writing Skills in English

Sub Code: BPWSK206

After successful completion of this course, the students will be able to;

CO	Description
C124.1	To understand and identify the Common Errors in Writing and Speaking.
C124.2	To Achieve better Technical writing and Presentation skills.
C124.3	To read Technical proposals properly and make them to Write good technical reports.
C124.4	Acquire Employment and Workplace communication skills.
C124.5	To learn about Techniques of Information Transfer through presentation in different level.

Subject: Samskrutika Kannada

Sub Code: BKSCK107

After successful completion of this course, the students will be able to;

CO	Description
C125.1	ವೃತ್ತಿಪರ ಪದವಿ ವಿದ್ಯಾರ್ಥಿಗಳಾಗಿರುವುದರಿಂದ ಕನ್ನಡ ಭಾಷೆ, ಸಾಹಿತ್ಯ ಮತ್ತು ಕನ್ನಡದ ಸಂಸ್ಕೃತಿಯ ಪರಿಚಯ ಮಾಡಿಕೊಡುವುದು
C125.2	ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಪ್ರಧಾನ ಭಾಗವಾದ ಆಧುನಿಕ ಪೂರ್ವ ಮತ್ತು ಆಧುನಿಕ ಕಾವ್ಯಗಳನ್ನು ಸಾಂಕೇತಿಕವಾಗಿ ಪರಿಚಯಿಸಿ ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಸಾಹಿತ್ಯ ಮತ್ತು ಸಂಸ್ಕೃತಿಯ ಬಗ್ಗೆ ಅರಿವು ಹಾಗೂ ಆಸಕ್ತಿಯನ್ನು ಮೂಡಿಸುವುದು
C125.3	ತಾಂತ್ರಿಕ ವೃತ್ತಿಗಳ ಪರಿಚಯವನ್ನು ಹಾಗೂ ಅವರುಗಳ ಸಾಧಿಸಿದ ವಿಷಯಗಳನ್ನು ಪರಿಚಯಿಸುವುದು
C125.4	ಕನ್ನಡ ಶಬ್ದಸಂಪತ್ತಿನ ಪರಿಚಯ ಮತ್ತು ಕನ್ನಡ ಭಾಷೆಯ ಬಳಕೆ ಹಾಗೂ ಕನ್ನಡದಲ್ಲಿ ಪತ್ರ ವ್ಯವಹಾರವನ್ನು ತಿಳಿಸಿಕೊಡುವುದು
C125.5	ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಆಧುನಿಕ ಪೂರ್ವ ಮತ್ತು ಆಧುನಿಕ ಕಾವ್ಯಗಳು ಮತ್ತು ಸಂಸ್ಕೃತಿಯ ಬಗ್ಗೆ ಆಸಕ್ತಿಯು ಮೂಡುತ್ತದೆ



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Course Outcome

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Subject: Balake Kannada

Sub Code: BKBKK107

After successful completion of this course, the students will be able to;

CO	Description
C126.1	To understand the necessity of learning of local language for comfortable life
C126.2	To Listen and understand the Kannada language properly
C126.3	To speak, read and write Kannada language as per requirement
C126.4	To communicate (converse) in Kannada language in their daily life with kannada speakers
C126.5	To speak in polite conversation.

Subject: Indian Constitution

Sub Code: BICOK107

After successful completion of this course, the students will be able to;

CO	Description
C127.1	Analyse the basic structure of Indian Constitution.
C127.2	Remember their Fundamental Rights, DPSP's and Fundamental Duties(FD's) of our constitution.
C127.3	Know about our Union Government, political structure & codes, procedures.
C127.4	Understand our State Executive & Elections system of India.
C127.5	Remember the Amendments and Emergency Provisions, other important provisions given by the constitution

Subject: Innovation and Design Thinking

Sub Code: BIDTK158

After successful completion of this course, the students will be able to;

CO	Description
C128.1	Appreciate various design process procedure
C128.2	Generate and develop design ideas through different technique
C128.3	Identify the significance of reverse Engineering to Understand products
C128.4	Draw technical drawing for design ideas
C128.5	Empathizing prototyping & testing



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Course Outcome

2022-23

Subject: Scientific Foundation of Health

Sub Code: BSFHK158

After successful completion of this course, the students will be able to;

CO	Description
C129.1	To know about Health and wellness (and its Beliefs) & It's balance for positive mindset.
C129.2	To Build the healthy lifestyles for good health for their better future.
C129.3	To Create a Healthy and caring relationships to meet the requirements of good/social/ positive life.
C129.4	To learn about Avoiding risks and harmful habits in their campus and outside the campus for their bright future
C129.5	To Prevent and fight against harmful diseases for good health through positive mindset

Subject: Introduction to Electrical Engineering

Sub Code: BESCK104B

After successful completion of this course, the students will be able to;

CO	Description
C131.1	Understand the concepts of various energy sources and Electric circuits.
C131.2	Apply the basic Electrical laws to solve circuits.
C131.3	Discuss the construction and operation of various Electrical Machines.
C131.4	Identify suitable Electrical machine for practical implementation.
C131.5	Explain the concepts of electric power transmission and distribution, electricity billing, circuit protective devices and personal safety measures.

Subject: Introduction to Electronics Engineering

Sub Code: BESCK104C

After successful completion of this course, the students will be able to;

	Description
C132.1	Describe the concepts of electronic circuits encompassing power supplies and amplifiers.
C132.2	Explain different types oscillators and operational amplifiers.
C132.3	Present the basics of boolean algebra and digital logic circuits including combinational logic circuits design.
C132.4	Discuss the characteristics and technological advances of embedded systems.
C132.5	Describe the characteristics and technological advances of embedded systems



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Course Outcome

2022-23

Subject: Introduction to C Programming

Sub Code: BESCK104E

After successful completion of this course, the students will be able to;

CO	Description
C134.1	Elucidate the basic architecture and functionalities of a computer and also recognize the hardware parts
C134.2	Apply programming constructs of C language to solve the real world problem
C134.3	Explore user-defined data structures like arrays in implementing solutions to problems like searching and sorting.
C134.4	Explore user-defined data structures like arrays in implementing solutions to problems like searching and sorting
C134.5	Design and Develop Solutions to problems using modular programming constructs using functions

Subject: Renewable Energy Sources

Sub Code: BETCK105E

After successful completion of this course, the students will be able to;

CO	Description
C139.1	Describe the environmental aspects of renewable energy resources. In comparison with various conventional energy systems, their prospectus and limitations
C139.2	Describe the use of solar energy and various components used in the energy production with respect to applications like heating cooling, desalination, power generation.
C139.3	Understand the conversion principles of wind and tidal energy
C139.4	Understand the concept of biomass energy resources and green energy
C139.5	Acquire the basic knowledge of ocean thermal energy conversion and hydrogen energy

Subject: Introduction to Internet of Things (IOT)

Sub Code: BETCK105H

After successful completion of this course, the students will be able to;

CO	Description
C142.1	Describe the evolution of IoT, IoT networking components.
C142.2	Classify various sensing devices and actuator types.
C142.3	Demonstrate the processing in IoT.
C142.4	Explain Associated IOT Technologies
C142.5	Illustrate architecture of IOT Applications

Subject: Introduction to Cyber Security

Sub Code: BETCK205I

After successful completion of this course, the students will be able to;

CO	Description
C143.1	Explain the cybercrime terminologies
C143.2	Describe Cyber offenses and Botnets
C143.3	Illustrate Tools and Methods used on Cybercrime
C143.4	Explain Phishing and Identity Theft
C143.5	Justify the need of computer forensics



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Course Outcome

2022-23

Subject: Introduction to Python Programming

Sub Code: BPLCK105B

After successful completion of this course, the students will be able to;

CO	Description
C145.1	Demonstrate proficiency in handling loops and creation of functions.
C145.2	Identify the methods to create and manipulate lists, tuples and dictionaries.
C145.3	Develop programs for string processing and file organization.
C145.4	Interpret the concepts of Object-Oriented Programming as used in Python
C145.5	Implement the Object Oriented Programming concepts in Python



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Course Outcome

2022-23

Course Outcomes for 2nd Semester

Subject: Mathematics- II for CSE Stream

Sub Code: BMATS201

After successful completion of this course, the students will be able to;

CO	Description
C113.1	Apply the concept of change of order of integration and variables to evaluate multiple integrals and their usage in computing area and volume
C113.2	Understand the applications of vector calculus refer to solenoidal, irrotational vectors, line integral and surface integral.
C113.3	Demonstrate the idea of Linear dependence and independence of sets in the vector space, and linear transformation
C113.4	Apply the knowledge of numerical methods in solving physical and engineering phenomena.
C113.5	Get familiarize with modern mathematical tools namely SCILAB/PYTHON/MATLAB

Subject: Mathematics-II for EEE Stream

Sub Code: BMATE201

After successful completion of this course, the students will be able to;

CO	Description
C114.1	Understand the applications of vector calculus refer to Solenoidal, irrotational vectors, line integral and surface integral.
C114.2	Demonstrate the idea of Linear dependence and independence of sets in the vector space, and linear transformation
C114.3	To understand the concept of Laplace transform and to solve initial value problems.
C114.4	Apply the knowledge of numerical methods in solving physical and engineering phenomena.
C114.5	Get familiarize with modern mathematical tools namely SCILAB/PYTHON/MATLAB

Subject: Mathematics-II for ME Stream

Sub Code: BMATM201

After successful completion of this course, the students will be able to;

CO	Description
C115.1	Apply the concept of change of order of integration and variables to evaluate multiple integrals and their usage in computing area and volume
C115.2	Understand the applications of vector calculus refer to Solenoidal, irrotational vectors, line integral and surface integral.
C115.3	Solve partial differential equations of fluid mechanics, electromagnetic theory and heat transfer.
C115.4	Apply the knowledge of numerical methods in solving physical and engineering phenomena.
C115.5	Get familiarize with modern mathematical tools namely SCILAB/PYTHON/MATLAB



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Subject: Mathematics-II for Civil Stream

Sub Code: BMATC201

After successful completion of this course, the students will be able to;

CO	Description
C116.1	Apply the concept of change of order of integration and variables to evaluate multiple integrals and their usage in computing area and volume
C116.2	Understand the applications of vector calculus refer to Solenoidal, irrotational vectors, line integral and surface integral.
C116.3	Solve partial differential equations of fluid mechanics, electromagnetic theory and heat transfer.
C116.4	Apply the knowledge of numerical methods in solving physical and engineering phenomena.
C116.5	Get familiarize with modern mathematical tools namely SCILAB/PYTHON/MATLAB

Subject: Applied Physics for CSE Stream

Sub Code: BPHYS202

After successful completion of this course, the students will be able to;

CO	Description
C105.1	Describe the principles of LASERS and Optical fibers and their relevant applications.
C105.2	Discuss the basic principles of the Quantum Mechanics and its application in Quantum Computing.
C105.3	Summarize the essential properties of superconductors and its applications in qubits.
C105.4	Illustrate the application of physics in design and data analysis.
C105.5	Practice working in groups to conduct experiments in physics and perform precise and honest measurements.

Subject: Applied Physics for EEE Stream

Sub Code: BPHYE202

After successful completion of this course, the students will be able to;

CO	Description
C106.1	Describe the principles of LASERS and Optical fibers and their relevant applications.
C106.2	Discuss the basic principles of the Quantum Mechanics and its application in Quantum Computing.
C106.3	Summarize the essential properties of superconductors and its applications in qubits.
C106.4	Illustrate the application of physics in design and data analysis.
C106.5	Practice working in groups to conduct experiments in physics and perform precise and honest measurements.



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Subject: Applied Physics for ME Stream

Sub Code: BPHYM202

After successful completion of this course, the students will be able to;

CO	Description
C107.1	Describe the types of oscillations and applications of shock waves.
C107.2	Discuss the advanced elastic materials, beams with number of advantages.
C107.3	Illustrate the application of thermoelectric materials.
C107.4	Illustrate the application Cryogenics, in Aerospace and Food process
C107.5	Practice working in groups to conduct experiments in physics and perform precise and honest measurements.

Subject: Applied Physics for CV Stream

Sub Code: BPHYC202

After successful completion of this course, the students will be able to;

CO	Description
C108.1	Describe the types of oscillations and applications of shock waves.
C108.2	Discuss the advanced elastic materials, beams with number of advantages.
C108.3	Impact of Noise in Multi-storied buildings.
C108.4	Describe the principle of laser and optical fibers and their relevant applications
C108.5	Practice working in groups to conduct experiments in physics and perform precise and honest measurements.

Subject: Applied Chemistry for Civil Stream

Sub Code: BCHEC202

After successful completion of this course, the students will be able to;

CO	Description
C109.1	Describe the types of oscillations and applications of shock waves.
C109.2	Discuss the advanced elastic materials, beams with number of advantages.
C109.3	Impact of Noise in Multi-storied buildings.
C109.4	Describe the principle of laser and optical fibers and their relevant applications
C109.5	Practice working in groups to conduct experiments in physics and perform precise and honest measurements.

Subject: Applied Chemistry for CSE Stream

Sub Code: BCHES202

After successful completion of this course, the students will be able to;

CO	Description
C110.1	Identify the terms and processes involved in scientific and engineering applications
C110.2	Explain the phenomena of chemistry to describe the methods of engineering processes
C110.3	Solve for the problems in chemistry that are pertinent in engineering applications
C110.4	Apply the basic concepts of chemistry to explain the chemical properties and processes
C110.5	Analyze properties and processes associated with chemical substances in multidisciplinary situations



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Course Outcome

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Subject: Applied Chemistry for EEE Stream

Sub Code: BCHEE202

After successful completion of this course, the students will be able to;

CO	Description
C111.1	Identify the terms and processes involved in scientific and engineering applications
C111.2	Explain the phenomena of chemistry to describe the methods of engineering processes
C111.3	Solve for the problems in chemistry that are pertinent in engineering applications
C111.4	Apply the basic concepts of chemistry to explain the chemical properties and processes
C111.5	Analyze properties and processes associated with chemical substances in multidisciplinary situations

Subject: Applied Chemistry for ME Stream

Sub Code: BCHEM202

After successful completion of this course, the students will be able to;

CO	Description
C112.1	Identify the terms and processes involved in scientific and engineering applications
C112.2	Explain the phenomena of chemistry to describe the methods of engineering processes
C112.3	Solve for the problems in chemistry that are pertinent in engineering applications
C112.4	Apply the basic concepts of chemistry to explain the chemical properties and processes
C112.5	Analyze properties and processes associated with chemical substances in multidisciplinary situations

Subject: Principle of Programming using C

Sub Code: BPOPS203

After successful completion of this course, the students will be able to;

CO	Description
C117.1	Elucidate the basic architecture and functionalities of a computer and also recognize
C117.2	Apply programming constructs of C language to solve the real world problem
C117.3	Explore user-defined data structures like arrays in implementing solutions to problems like searching and sorting
C117.4	Explore user-defined data structures like structures, unions and pointers in implementing solutions
C117.5	Design and Develop Solutions to problems using modular programming constructs using functions



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Course Outcome

2022-23

Subject: Elements of Electrical Engineering

Sub Code: BEEE203

After successful completion of this course, the students will be able to;

CO	Description
C118.1	Understand the concepts of DC circuits and Electromagnetism.
C118.2	Understand the concepts of single phase AC circuits.
C118.3	Analyze the concepts of Three phase AC circuits.
C118.4	Understand the concepts of measurements and measuring Instruments
C118.5	Explain the concepts of domestic wiring, electricity billing, circuit protective devices and personal safety measures.

Subject: Elements Of Civil Engineering & Mechanics

Sub Code: BEMEM203

After successful completion of this course, the students will be able to;

CO	Description
C121.1	Describing the basics of civil engineering, its scope of study, knowledge about roads, bridges and dams. Understanding the action of forces, moments and other loads on systems of rigid bodies.
C121.2	Understanding the concept of equilibrium and friction- Static and Dynamic.
C121.3	Analyzing and Interpreting the reactive forces and the effects those develop as a result of external loads on beams and trusses.
C121.4	Finding the centroid and moment of inertia of composite, plane and curved figures.
C121.5	Describing the basics of kinematics and kinetics, different types of motions. Analyzing the motion of the body

Subject: Elements of Mechanical Engineering

Sub Code: BEMEM203

After successful completion of this course, the students will be able to;

CO	Description
C120.1	Explain the role of mechanical engineering in industry and society, fundamentals of steam and non-conventional energy sources
C120.2	Describe different conventional and advanced machining processes, IC engines, propulsive devices, air-conditioning, and refrigeration.
C120.3	Explain different gear drives, gear trains, aspects of future mobility and fundamentals of robotics
C120.4	Determine the condition of steam and its energy, performance parameters of IC engines, velocity ratio and power transmitted through power transmission systems.
C120.5	Apply the skills in developing simple mechanical elements and processes



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Course Outcome

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Subject: Computer-Aided Engineering Drawing

Sub Code: BCEDK203

After successful completion of this course, the students will be able to;

CO	Description
C122.1	Draw and communicate the objects with definite shape and dimensions
C122.2	Recognize and Draw the shape and size of objects through different views
C122.3	Develop the lateral surfaces of the object
C122.4	Create a 3D views using CAD software
C122.5	Identify the interdisciplinary engineering components or systems through its graphical representation

Subject: Communicative English

Sub Code: BENGK206

After successful completion of this course, the students will be able to;

CO	Description
C123.1	Understand and apply the Fundamentals of Communication Skills in their communication skills.
C123.2	Identify the nuances of phonetics, intonation and enhance pronunciationskills.
C123.3	To impart basic English grammar and essentials of language skills as per present requirement.
C123.4	Understand and use all types of English vocabulary and language proficiency.
C123.5	Adopt the Techniques of Information Transfer through presentation.

Subject: Professional Writing Skills in English

Sub Code: BPWSK206

After successful completion of this course, the students will be able to;

CO	Description
C124.1	To understand and identify the Common Errors in Writing and Speaking.
C124.2	To Achieve better Technical writing and Presentation skills.
C124.3	To read Technical proposals properly and make them to Write good technical reports.
C124.4	Acquire Employment and Workplace communication skills.
C124.5	To learn about Techniques of Information Transfer through presentation in different level.



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Course Outcome

2022-23

Subject: Samskrutika Kannada

Sub Code: BKSCK207

After successful completion of this course, the students will be able to;

CO	Description
C125.1	ವೃತ್ತಿಪರ ಪದವಿ ವಿದ್ಯಾರ್ಥಿಗಳಾಗಿರುವುದರಿಂದ ಕನ್ನಡ ಭಾಷೆ, ಸಾಹಿತ್ಯ ಮತ್ತು ಕನ್ನಡದ ಸಂಸ್ಕೃತಿಯ ಪರಿಚಯ ಮಾಡಿಕೊಡುವುದು
C125.2	ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಪ್ರಧಾನ ಭಾಗವಾದ ಆಧುನಿಕ ಪೂರ್ವ ಮತ್ತು ಆಧುನಿಕ ಕಾವ್ಯಗಳನ್ನು ಸಾಂಕೇತಿಕವಾಗಿ ಪರಿಚಯಿಸಿ ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಸಾಹಿತ್ಯ ಮತ್ತು ಸಂಸ್ಕೃತಿಯ ಬಗ್ಗೆ ಅರಿವು ಹಾಗೂ ಆಸಕ್ತಿಯನ್ನು ಮೂಡಿಸುವುದು
C125.3	ತಾಂತ್ರಿಕ ವ್ಯಕ್ತಿಗಳ ಪರಿಚಯವನ್ನು ಹಾಗೂ ಅವರುಗಳ ಸಾಧಿಸಿದ ವಿಷಯಗಳನ್ನು ಪರಿಚಯಿಸುವುದು
C125.4	ಕನ್ನಡ ಶಬ್ದಸಂಪತ್ತಿನ ಪರಿಚಯ ಮತ್ತು ಕನ್ನಡ ಭಾಷೆಯ ಬಳಕೆ ಹಾಗೂ ಕನ್ನಡದಲ್ಲಿ ಪತ್ರ ವ್ಯವಹಾರವನ್ನು ತಿಳಿಸಿಕೊಡುವುದು
C125.5	ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಆಧುನಿಕ ಪೂರ್ವ ಮತ್ತು ಆಧುನಿಕ ಕಾವ್ಯಗಳು ಮತ್ತು ಸಂಸ್ಕೃತಿಯ ಬಗ್ಗೆ ಆಸಕ್ತಿಯು ಮೂಡುತ್ತದೆ

Subject: Balake Kannada

Sub Code: BKBCK207

After successful completion of this course, the students will be able to;

CO	Description
C126.1	To understand the necessity of learning of local language for comfortable life
C126.2	To Listen and understand the Kannada language properly
C126.3	To speak, read and write Kannada language as per requirement
C126.4	To communicate (converse) in Kannada language in their daily life with kannada speakers
C126.5	To speak in polite conversation.

Subject: Indian Constitution

Sub Code:

BICOK207

After successful completion of this course, the students will be able to;

CO	Description
C127.1	Analyse the basic structure of Indian Constitution.
C127.2	Remember their Fundamental Rights, DPSP's and Fundamental Duties(FD's) of our constitution.
C127.3	Know about our Union Government, political structure & codes,procedures.
C127.4	Understand our State Executive & Elections system of India.
C127.5	Remember the Amendments and Emergency Provisions, other importantprovisions given by the constitution



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Course Outcome

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Subject: Innovation and Design Thinking

Sub Code: BIDTK258

After successful completion of this course, the students will be able to;

CO	Description
C128.1	Appreciate various design process procedure
C128.2	Generate and develop design ideas through different technique
C128.3	Identify the significance of reverse Engineering to Understand products
C128.4	Draw technical drawing for design ideas
C128.5	Empathizing prototyping & testing

Subject: Scientific Foundation of Health

Sub Code: BSFHK258

After successful completion of this course, the students will be able to;

CO	Description
C129.1	To know about Health and wellness (and its Beliefs) & its balance for positivemindset.
C129.2	To Build the healthy lifestyles for good health for their better future.
C129.3	To Create a Healthy and caring relationships to meet the requirements of good/ social/ positive life.
C129.4	To learn about Avoiding risks and harmful habits in their campus and outside the campus for their bright future
C129.5	To Prevent and fight against harmful diseases for good health through positivemindset

Subject: Introduction to Electrical Engineering

Sub Code: BESCK204B

After successful completion of this course, the students will be able to;

CO	Description
C131.1	Understand the concepts of various energy sources and Electric circuits.
C131.2	Apply the basic Electrical laws to solve circuits.
C131.3	Discuss the construction and operation of various Electrical Machines.
C131.4	Identify suitable Electrical machine for practical implementation.
C131.5	Explain the concepts of electric power transmission and distribution, electricity billing, circuit protective devices and personal safety measures.

Subject: Introduction to Electronics Engineering

Sub Code: BESCK204C

After successful completion of this course, the students will be able to;

	Description
C132.1	Describe the concepts of electronic circuits encompassing power supplies and amplifiers.
C132.2	Explain different types oscillators and operational amplifiers.
C132.3	Present the basics of boolean algebra and digital logic circuits including combinational



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Course Outcome

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	logic circuits design.
C132.4	Discuss the characteristics and technological advances of embedded systems.
C132.5	Describe the characteristics and technological advances of embedded systems

Subject: Introduction to C Programming

Sub Code: BESCK204E

After successful completion of this course, the students will be able to;

CO	Description
C134.1	Elucidate the basic architecture and functionalities of a computer and also recognize the hardware parts
C134.2	Apply programming constructs of C language to solve the real world problem
C134.3	Explore user-defined data structures like arrays in implementing solutions to problems like searching and sorting.
C134.4	Explore user-defined data structures like arrays in implementing solutions to problems like searching and sorting
C134.5	Design and Develop Solutions to problems using modular programming constructs using functions

Subject: Renewable Energy Sources

Sub Code: BETCK205E

After successful completion of this course, the students will be able to;

CO	Description
C139.1	Describe the environmental aspects of renewable energy resources. In comparison with various conventional energy systems, their prospectus and limitations
C139.2	Describe the use of solar energy and various components used in the energy production with respect to applications like heating cooling, desalination, power generation.
C139.3	Understand the conversion principles of wind and tidal energy
C139.4	Understand the concept of biomass energy resources and green energy
C139.5	Acquire the basic knowledge of ocean thermal energy conversion and hydrogen energy

Subject: Introduction to Internet of Things (IOT)

Sub Code: BETCK205H

After successful completion of this course, the students will be able to;

CO	Description
C142.1	Describe the evolution of IoT, IoT networking components.
C142.2	Classify various sensing devices and actuator types.
C142.3	Demonstrate the processing in IoT.
C142.4	Explain Associated IOT Technologies
C142.5	Illustrate architecture of IOT Applications



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Subject: Introduction to Cyber Security

Sub Code: BETCK205I

After successful completion of this course, the students will be able to;

CO	Description
C143.1	Explain the cybercrime terminologies
C143.2	Describe Cyber offenses and Botnets
C143.3	Illustrate Tools and Methods used on Cybercrime
C143.4	Explain Phishing and Identity Theft
C143.5	Justify the need of computer forensics

Subject: Introduction to Python Programming

Sub Code: BPLCK205B

After successful completion of this course, the students will be able to;

CO	Description
C145.1	Demonstrate proficiency in handling loops and creation of functions.
C145.2	Identify the methods to create and manipulate lists, tuples and dictionaries.
C145.3	Develop programs for string processing and file organization.
C145.4	Interpret the concepts of Object-Oriented Programming as used in Python
C145.5	Implement the Object Oriented Programming concepts in Python




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Course
Outcome

2021-22

List of Course Outcomes for All Courses**Course Outcomes for 1st Semester****Sub:** Calculus and Linear Algebra**Sub. Code:** 21MAT11

After successful completion of the course, the student will be able to:

CO	Description
C101.1	Apply the knowledge of calculus to solve problems related to polar curves and its applications in determining the bentness of a curve.
C101.2	Learn the notion of partial differentiation to calculate rate of change of multivariate functions and solve problems related to composite functions and Jacobian.
C101.3	Solve first-order linear/nonlinear ordinary differential equations analytically through standard methods.
C101.4	Demonstrate various models through higher order differential equations and solve such linear ordinary differential equations.
C101.5	Test the consistency of a system of linear equations and to solve them by direct and iterative methods.

Sub: Engineering Physics**Sub. Code:** 21PHY12/22

After successful completion of the course, the student will be able to:

CO	Description
C102.1	Interpret the types of mechanical vibrations and their applications, the role of Shock waves in various fields.
C102.2	Demonstrate the quantization of energy for microscopic system.
C102.3	Apply LASER and Optical fibers in optoelectronic system.
C102.4	Illustrate merits of quantum free electron theory and applications of Hall effect.
C102.5	Analyse the importance of XRD and Electron Microscopy in Nano material characterization.

Sub: Basic Electrical Engineering**Sub. Code:** 21ELE13/23

After successful completion of the course, the student will be able to:

CO	Description
C103.1	Analyze DC circuits and explain the generation of sinusoidal voltage and AC fundamentals
C103.2	Analyze DC circuits and explain the generation of sinusoidal voltage and AC fundamentals
C103.3	Discuss the construction and operation of DC machines
C103.4	Discuss the construction and operation of three phase induction motors and synchronous generators.
C103.5	Explain the concepts of electric power transmission and distribution, electricity billing, circuit protective devices and personal safety measures.



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Outcome

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Sub: Elements of Civil Engineering & Engineering Mechanics

Sub. Code: 21CIV14/24

After successful completion of the course, the student will be able to:

CO	Description
C104.1	Describing the basics of civil engineering, its scope of study, knowledge about roads, bridges and dams. Understanding the action of forces, moments and other loads on systems of rigid bodies.
C104.2	Understanding the concept of equilibrium and friction- Static and Dynamic.
C104.3	Analyzing and Interpreting the reactive forces and the effects those develop as a result of external loads on beams and trusses.
C104.4	Finding the centroid and moment of inertia of composite plane and curved figures.
C104.5	Describing the basics of kinematics and kinetics, different types of motions. Analyzing the motion of the body

Sub: Engineering Visualization

Sub. Code: 21EVLN15/25

After successful completion of the course, the student will be able to:

CO	Description
C105.1	Understand and visualize the objects with definite shape and dimensions
C105.2	Analyze the shape and size of objects through different views
C105.3	Develop the lateral surfaces of the object
C105.4	Create a 3D view using CAD software.
C105.5	Identify the interdisciplinary engineering components or systems through its graphical representation.

Sub: Engineering Physics Laboratory

Sub. Code: 21PHYL16/26

After successful completion of the course, the student will be able to:

CO	Description
C106.1	Develop skills to impart practical knowledge in real time solution.
C106.2	Explain principle, concept, working and application of new technology and comparison of results with theoretical calculations.
C106.3	Gain knowledge of new concept in the solution of practical oriented problems and to understand more deep knowledge about the solution to theoretical problems.



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Sub: Basic Electrical Engineering Laboratory

Sub. Code: 21ELEL17/27

After successful completion of the course, the student will be able to:

CO	Description
C107.1	Verify KCL and KVL and maximum power transfer theorem for DC circuits.
C107.2	Compare power factors of different types of lamps.
C107.3	Demonstrate the measurement of the impedance of an Electrical circuit and power consumed by three phase load.
C107.4	Analyze two way and three way control of lamps.
C107.5	Explain the effect of open and short circuits in simple circuits.
107.6	Interpret the stability of earth resistance measured.

Sub: Communicative English

Sub. Code: 21EGH18

After successful completion of the course, the student will be able to:

CO	Description
C108.1	Understand and apply the Fundamentals of Communication Skills in their communication skills.
C108.2	Identify the nuances of phonetics, intonation and enhance pronunciation skills.
C108.3	To impart basic English grammar and essentials of language skills as per present requirement.
C108.4	Understand and use all types of English vocabulary and language proficiency.
C108.5	Adopt the Techniques of Information Transfer through presentation.

Sub: Innovation & Design Thinking

Sub. Code: 21IDT19

After successful completion of the course, the student will be able to:

CO	Description
C109.1	To understand Health and wellness (and its Beliefs)
C109.2	To acquire Good Health & It's balance for positive mindset
C109.3	To inculcate and develop the healthy lifestyle habits for good health.
C109.4	To Create of Healthy and caring relationships to meet the requirements of MNC and LPG world
C109.5	Adopt the innovative & positive methods to avoid risks from harmful habits in their campus & outside the campus
C109.6	To positively fight against harmful diseases for good health through positive mindset.



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First Year Engineering
Hirasugar Institute of Technology,
NIDASOSHI-591 236.

Nidasoshi-591 236, Taq: Hukkeri, Dist: Belagavi, Karnataka, India.
Phone: +91-8333-278887, Fax: 278886, Web: www.hsit.ac.in, E-mail: principal@hsit.ac.in



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Outcome

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Course Outcomes for 1st Semester

Sub: Advanced Calculus and Numerical Methods

Sub. Code: 21MAT21

After successful completion of the course, the student will be able to:

CO	Description
C110.1	Apply the knowledge of calculus to solve problems related to polar curves and its applications in determining the bentness of a curve.
C110.2	Learn the notion of partial differentiation to calculate rate of change of multivariate functions and solve problems related to composite functions and Jacobian.
C110.3	Solve first-order linear/nonlinear ordinary differential equations analytically through standard methods.
C110.4	Demonstrate various models through higher order differential equations and solve such linear ordinary differential equations.
C110.5	Test the consistency of a system of linear equations and to solve them by direct and iterative methods.

Sub: Engineering Chemistry

Sub. Code: 21CHE12/22

After successful completion of the course, the student will be able to:

CO	Description
C111.1	The course able to impart the basic knowledge of chemistry and its principles involved in electrochemistry, energy storage devices using thermodynamic considerations and its commercial applications.
C111.2	The course has able to understand the basic principles of corrosion and its prevention by modifying the surface properties of metals to develop resistance to corrosion and metal finishing, and its technological importance by wear, tear impact etc. by electroplating and electroless plating processes.
C111.3	The course has able to master in the knowledge of synthesis, properties, and utilization of engineering materials and applications of polymer, lubricants, and refractories in various fields of engineering and science.
C111.4	The course has able to Apply the knowledge of Green Chemistry principles for the production of chemical compounds. Understanding the concepts of synthesis and characterization of nanomaterials.
C111.5	The course has able to illustrate the sources, causes and water analysis and Understanding the theory, basic principle, and applications of volumetric analysis and analytical instruments.



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Course
Outcome

2021-22

Sub: Problem-Solving through Programming

Sub. Code: 21PSP13/23

After successful completion of the course, the student will be able to:

CO	Description
C112.1	Explain the basic architecture and functionalities of a Computer and familiar with elements of C-Program.
C112.2	Understand and Apply Programming constructs of C language to solve the real-world problems.
C112.3	Explore user-defined data structures like arrays in implementing solution to searching, sorting and other problems.
C112.4	Design and Develop Solutions to problems using modular programming constructs using functions.
C112.5	Explore user-Defined data structures like structures, unions and pointers in implementing solution to the problems.

Sub: Basic Electronics & Communication Engineering

Sub. Code: 21ELN14/24

After successful completion of the course, the student will be able to:

CO	Description
C113.1	Describe the concepts of electronic circuits encompassing power supplies, amplifiers and oscillators.
C113.2	Present the basics of digital logic engineering including data representation, circuits and the microcontroller system with associated sensors and actuators.
C113.3	Discuss the characteristics and technological advances of embedded systems.
C113.4	Relate to the fundamentals of communication engineering spanning from the frequency spectrum to the various circuits involved including antennas.
C113.5	Explain the different modes of communications from wired to wireless and the computing involved.



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Sub: Elements of Mechanical Engineering

Sub. Code: 21ME15/25

After successful completion of the course, the student will be able to:

CO	Description
C114.1	Understanding the role & contribution of Mechanical Engineering for society, industry and GDP. Interpret the concepts of energy, its sources and conversions and comprehend the basic concepts of thermodynamics & its properties during the steam formation. Understand and differentiate the working principle of hydraulic turbines and pumps.
C114.2	Understanding the compositions, properties & applications of common engineering materials, metal joining processes and modes of heat transfer and its applications.
C114.3	Differentiate the working principle of internal combustion engines and understand the applications of engines and future mobility technologies such as electrical and hybrid vehicles. Understanding the refrigeration and air conditioning systems and their applications.
C114.4	Understand the mechanical power transmission systems and linkages and their applications. Understanding the basics of robotics and its applications & usage.
C114.5	Understand the conventional metal removing principles, processes and advanced manufacturing systems and their machines. Understanding the basics of mechatronics

Sub: Engineering Chemistry Laboratory

Sub. Code: 21CHEL16/26

After successful completion of the course, the student will be able to:

CO	Description
C115.1	The course able to Determine the pKa and coefficient of Viscosity of a given organic liquid.
C115.2	The course able to Estimate the amount of substance present in the given solution using Potentiometer Conductometric and Colorimetric.
C115.3	The course able to Determine the total hardness and chemical oxygen demand in the given solution by volumetric analysis method.
C115.4	The course able to Estimate the percentage of Nickel, copper and Iron in the given analytical solution by titration method.
C115.5	The course able to Demonstrate flame photometric estimation of sodium & potassium and the synthesis of nonmetal's by Precipitation method.



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FIRST
YEAR

NAAC

Course
Outcome

2021-22

Sub: Computer Programming Laboratory

Sub. Code: 21CPL17/27

After successful completion of the course, the student will be able to:

CO	Description
C116.1	Define the problem statement and identify the need for computer programming
C116.2	Make use of C compiler, IDE for programming, identify and correct the syntax and syntactic errors in programming
C116.3	Develop algorithm, flowchart and write programs to solve the given problem
C116.4	Demonstrate use of functions, recursive functions, arrays, strings, structures and pointers in problem solving.
C116.5	Document the inference and observations made from the implementation.

Sub: Professional writing skills in English

Sub. Code: 21EGH28

After successful completion of the course, the student will be able to:

CO	Description
C117.1	Understand and apply the Fundamentals of Communication Skills in their communication skills.
C117.2	Identify the nuances of phonetics, intonation and enhance pronunciation skills.
C117.3	To impart basic English grammar and essentials of language skills as per present requirement.
C117.4	Understand and use all types of English vocabulary and language proficiency.
C117.5	Adopt the Techniques of Information Transfer through presentation.

Scientific Foundation of Health

Sub. Code: 21SFH29

After successful completion of the course, the student will be able to:

CO	Description
C118.1	Appreciate various design process procedure
C118.2	Generate and develop design ideas through different technique
C118.3	Identify the significance of reverse Engineering to Understand products
C118.4	Draw technical drawing for design ideas
C118.5	Empathizing prototyping & testing




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Hirasugar Institute of Technology
NIDASOSHI-591 236.

Nidasoshi-591 236, Taq: Hukkeri, Dist: Belagavi, Karnataka, India.

Phone: +91-8333-278887, Fax: 278886, Web: www.hsit.ac.in, E-mail: principal@hsit.ac.in



Course Outcomes of all the courses from 1st Semester & 2nd Semester

SUB: Calculus And Linear Algebra

Sub Code: 18MAT11

After successful completion of this course, the students will be able to;

CO	Description
C101.1	Apply the knowledge of calculus to solve problems related to polar curves and its applications in Determining the bentness of a curve.
C101.2	Learn the notion of partial differentiation to calculate rates of change of multivariate functions and solve problems related to composite functions and Jacobians.
C101.3	Apply the concept of change of order of integration and variables to evaluate multiple integrals and their usage in computing the area and volumes.
C101.4	Solve first order linear/nonlinear differential equation analytically using standard methods.
C101.5	Make use of matrix theory for solving system of linear equations and compute eigen values and Eigenvectors required for matrix diagonalization process.

SUB: Engineering Physics

Sub Code: 18PHY12/22

After successful completion of this course, the students will be able to;

CO	Description
C102.1	Understand various types of oscillations and their implications, the role of Shock waves in various fields and Recognize the elastic properties of materials for engineering applications.
C102.2	Realize the interrelation between time varying electric field and magnetic field, the transverse nature of the EM waves and their role in optical fiber communication.
C102.3	Compute Eigen values, Eigen functions, momentum of Atomic and subatomic particles using Time independent 1-D Schrodinger's wave equation.
C102.4	Apprehend theoretical background of laser, construction and working of different types of laser and its applications in different fields.
C102.5	Understand various electrical and thermal properties of materials like conductors, semiconductors and dielectrics using different theoretical models.



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FIRST YEAR

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Course Outcomes

2018-19

SUB: Elements Of Civil Engineering & Mechanics

Sub Code: 18CIV14/24

After successful completion of this course, the students will be able to;

CO	Description
C103.1	Describing the basics of civil engineering, its scope of study, knowledge about roads, bridges and dams. Understanding the action of forces, moments and other loads on systems of rigid bodies.
C103.2	Understanding the concept of equilibrium and friction- Static and Dynamic.
C103.3	Analyzing and Interpreting the reactive forces and the effects those develop as a result of external loads on beams and trusses.
C103.4	Finding the centroid and moment of inertia of composite plane and curved figures.
C103.5	Describing the basics of kinematics and kinetics, different types of motions. Analyzing the motion of the body

SUB: Elements Of Mechanical Engineering

Sub Code: 18ME15/25

After successful completion of this course, the students will be able to;

CO	Description
C104.1	Identify different sources of energy and their conversion process.
C104.2	Explain the working principle of hydraulic turbines, pumps, IC engines and refrigeration.
C104.3	Recognize various metal joining processes and power transmission elements.
C104.4	Understand the properties of common engineering materials and their applications in engineering industry.
C104.5	Discuss the working of conventional machine tools, machining processes, tools and accessories.
104.6	Describe the advanced manufacturing systems.

SUB: Basic Electrical Engineering

Sub Code: 18ELE23

After successful completion of this course, the students will be able to;

CO	Description
C105.1	Analyze DC circuits; explain the generation of AC and its fundamentals.
C105.2	Analyze single phase and three phase AC circuits.
C105.3	Explain the construction and working of single phase transformer, concepts of electrical wiring, circuit protecting devices and earthing.
C105.4	Explain the principle of operation and construction of DC machines.
C105.5	Explain the principle of operation and construction of three phase synchronous generator & induction motors.



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FIRST YEAR

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Course Outcomes

2018-19

SUB: Basic Electrical Engineering Laboratory

Sub Code: 18ELEL17/27

After successful completion of this course, the students will be able to;

CO	Description
C106.1	Identify the common electrical components and measuring instruments used for conducting experiments in the electrical Laboratory.
C106.2	Compare power factors of lamp.
C106.3	Determine the impedance of an electrical circuit and power consumed in a 3 phase load.
C106.4	Determine earth resistance and understand two way and three way control of lamps.

SUB: Engineering Physics Laboratory

Sub Code: 18PHY16/26

After successful completion of this course, the students will be able to;

CO	Description
C107.1	Develop skills to impart practical knowledge in real time solution.
C107.2	Explain principle, concept, working and application of new technology and comparison of results with theoretical calculations.
C107.3	Gain knowledge of new concept in the solution of practical oriented problems and to understand more deep knowledge about the solution to theoretical problems.

SUB: Technical Communication (English) - I

Sub Code: 18EGH18

After successful completion of this course, the students will be able to;

CO	Description
C108.1	Acquire basic English grammar and essentials of language skills and also clarifies the nuances of phonetics, intonation and pronunciation.
C108.2	Get familiarized with English vocabulary and language proficiency
C108.3	Improve the functional effectiveness through identifying common errors in spoken and written communication.
C108.4	Understand and Improve the non verbal communication and kinesics.
C108.5	Write campus recruitment exams, engineering competitive exams and all other general competitive exams



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FIRST YEAR

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Course Outcomes

2018-19

SUB: Advanced Calculus and Numerical Methods

Sub Code: 18MAT21

After successful completion of this course, the students will be able to;

CO	Description
C109.1	Illustrate the applications of multivariate calculus to understand the Solenoidal and Irrotational vectors and also exhibit the inter dependence of line, surface and volume integrals.
C109.2	Demonstrate various physical models through higher order differential equations and solve such linear ordinary differential equations.
C109.3	Construct a variety of partial differential equations and solution by exact methods/ method of separation of variables.
C109.4	Explain the applications of infinite series and obtain series solution of ordinary differential equations.
C109.5	Apply the knowledge of numerical methods in the modeling of various physical and engineering phenomena.

SUB: Engineering Chemistry

Sub Code: 18CHE12/22

After successful completion of this course, the students will be able to;

CO	Description
C110.1	Use of free energy in equilibria, rationalize bulk properties and processes using thermodynamic considerations, electrochemical energy systems.
C110.2	Causes & effects of corrosion of metals and control of corrosion. Modification of surface properties of metals to develop resistance to corrosion, wear, tear, impact etc. by electroplating and electroless plating.
C110.3	Production & consumption of energy for industrialization of country and living standards of people. Electrochemical and concentration cells. Classical, modern batteries and fuel cells. Utilization of solar energy for different useful forms of energy.
C110.4	Environmental pollution, waste management and water chemistry.
C110.5	Different techniques of instrumental methods of analysis. Fundamental principles of nanomaterials.



SUB: C Programming For Problem Solving

Sub Code: 18CPS13/23

After successful completion of this course, the students will be able to;

CO	Description
C111.1	Illustrate simple algorithms from the different domains such as mathematics, physics, etc.
C111.2	Construct a programming solution to the given problem using C.
C111.3	Identify and correct the syntax and logical errors in C Program.
C111.4	Modularize the given problem using functions and structures.

SUB: Engineering Graphics

Sub Code: 18EGD15/25

After successful completion of this course, the students will be able to;

CO	Description
C112.1	Prepare engineering drawings as per BIS conventions mentioned in the relevant
C112.2	Produce computer generated drawings using CAD software.
C112.3	Use the knowledge of orthographic projections to represent engineering information / concepts and present the same in the form of drawings.
C112.4	Develop isometric drawings of simple objects reading the orthographic projections
C112.5	Convert pictorial and isometric views of simple objects to orthographic views.

SUB: Basic Electronics

Sub Code: 18ELN14/24

After successful completion of this course, the students will be able to;

CO	Description
C113.1	Describe the working of diodes and their applications in rectifiers & regulators.
C113.2	Explain the working and applications of the devices like SCR, UJT & JFET's.
C113.3	Understand the op-amp circuit and its applications.
C113.4	Understand the BJT applications and concept of feedback amplifier & oscillators.
C113.5	Describe the digital number system and basic principle of communication system.



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FIRST YEAR
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Course Outcomes
2018-19

SUB: C Programming Laboratory

Sub Code: 18CPL17/27

After successful completion of this course, the students will be able to;

CO	Description
C114.1	Write algorithms, flowcharts and program for simple problems.
C114.2	Correct syntax and logical errors to execute a program.
C114.3	Write iterative and wherever possible recursive programs.
C114.4	Demonstrate use of functions, arrays, strings, structures and pointers in problem solving.

SUB: Engineering Chemistry Laboratory

Sub Code: 18CHEL16/26

After successful completion of this course, the students will be able to;

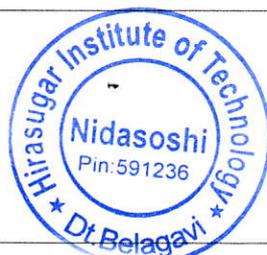
CO	Description
C115.1	Handling different types of instruments for analysis of materials using small quantities of materials involved for quick and accurate results.
C115.2	Carrying out different types of titrations for estimation of concerned in materials using comparatively more quantities of materials involved for good results.

SUB: Technical Communication (English) - II

Sub Code: 18EGH18/28

After successful completion of this course, the students will be able to;

CO	Description
C116.1	Acquire basic English grammar and essentials of language skills.
C116.2	Get familiarized with English vocabulary and language proficiency.
C116.3	Improve the functional effectiveness through identifying common errors in spoken and written communication.
C116.4	Improve nature and style of sensible writing, and also improve employment and workplace communication skills.
C116.5	Improve their Technical Communication Skills through Technical writing and Reading practices.
C116.6	Write campus recruitment exams, engineering competitive exams and all other general competitive exams.




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